Human Elephant Conflict (HEC)

What is human elephant conflict?

Human elephant conflict occurs when elephants and people live together in an area where they share the same resources. Therefore, they compete for the same food, space and water.

Why does HEC happen?

HEC occurs when people change elephant habitat into people habitat by clearing land to grow crops, building villages and adding roads.

What can happen when elephants are your neighbors?

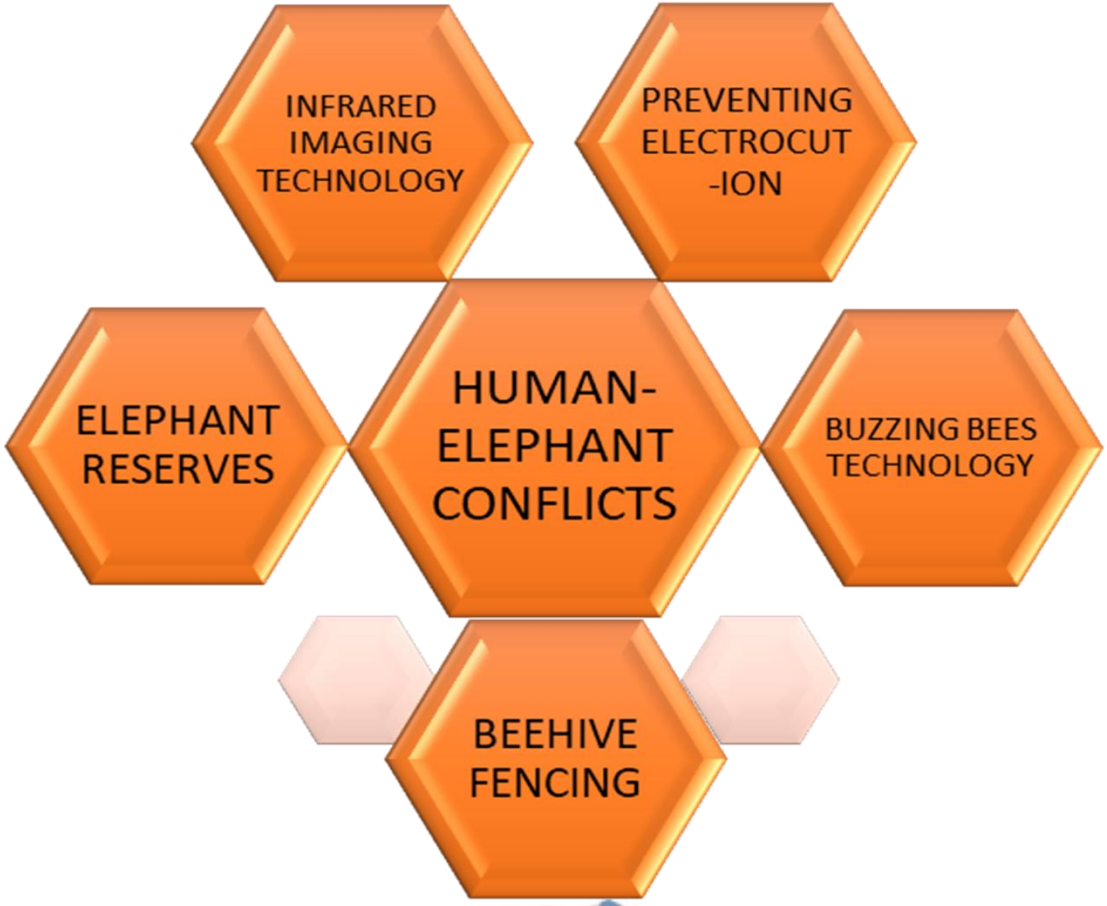
Elephants are attracted to many of the same food that people eat. A family's entire supply of crops can be eaten, leaving them with no food.

- Elephants can become upset and destroy homes and property.
- People can be hurt or even killed.

Project Study:

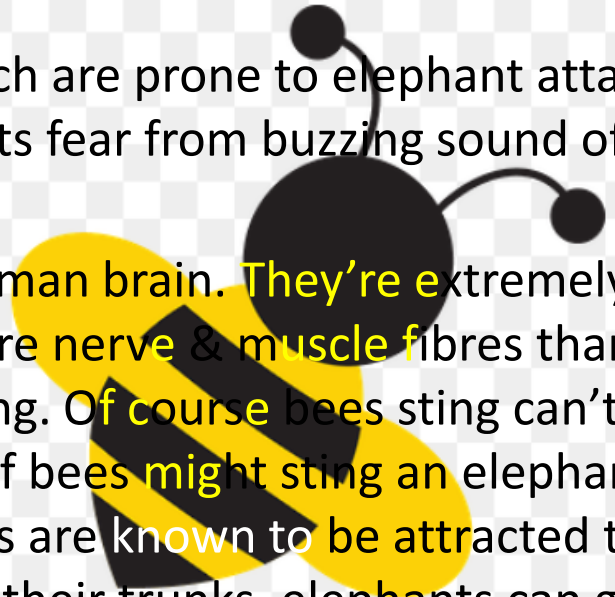
- Human-Elephant conflict has merged as one of the most challenging problems for elephant Management and conservation in recent times it creates considerable economic hardships for the affected farmers. There are several reasons that experience crop damage by elephant year after year. Human deaths due to encounters with elephants are also an issue of senior concern. It is estimated that every single approximately 400 persons killed by elephants across the country in more than 100 elephants are also killed in annually mostly as retaliatory killings by people.
- Human injury in encounter with elephants damage to property such as sheds, houses, irrigation facilities, death of elephant due to electrocution and train collisions lead to these conflicts. Considering these factors, management of conflict is one of the most important issue that need to be addressed in planned way for conservation of elephants.

Though complete solutions to human-elephant conflict doesn't exist, but good management & mitigation practices can go long way to minimize the adverse impacts of these conflicts. Human-elephant conflicts can be solved by focusing on this major category-



BUZZING BEES TECHNOLOGY

This technology is mostly required in village areas which are prone to elephant attacks. This technology is based on the principle that elephants fear from buzzing sound of the honey bees.

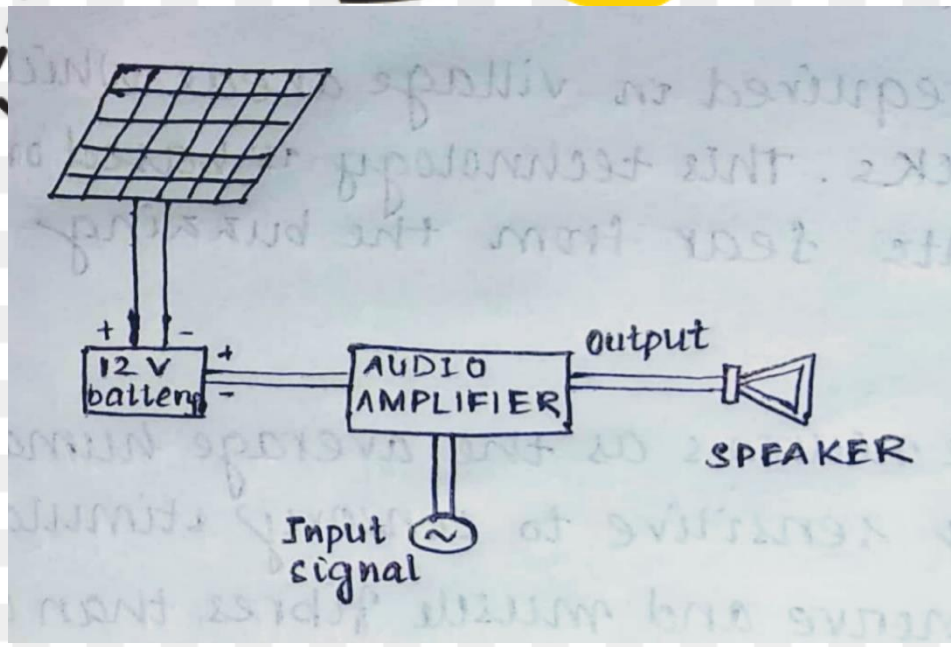


Elephants have 3 times the neurons as the average human brain. They're extremely sensitive to sensory stimulation. Their trunks have more nerve & muscle fibres than any other animals. They flee from the sounds of buzzing. Of course bees sting can't penetrate the thick hide of an elephant but hundred of bees might sting an elephant in its most sensitive area- the trunks, mouth & eyes. Bees are known to be attracted to the water around elephant's eyes & when they get up their trunks, elephants can go berserk.

This elephant's gear of bees can be used as potential fence line to protect crops.

Here, first we've to record the buzzing sound of bees, then we will install the speakers around the outskirts of the whole village. The speaker is connected to solar panels which will provide electric supply at night & itself get charged up during the daytime. When elephant will approach to the village, the buzzing sound will prevent them from entering into the village.

The audio amplifier uses DC. So, there is no need of inverter which converts DC to AC. During night the battery continuously supplies DC to amplifier. The input signal form is amplified and the output is obtained in the speaker.



INFRARED IMAGING TECHNOLOGY

Infrared Imaging is a technique of capturing the infrared light from objects and consisting it into visible images preferable by human eye.

Operation principle:

- IR light emitting the objects is focused by special lens.
- IR detectors scans the light to create detached temperate pattern called Thermogram. These thermogram led into signal processing chip to connect the electrical data into format suitable for viewing purposes.
- This information is sent to display unit where it appear as image.

Installation:

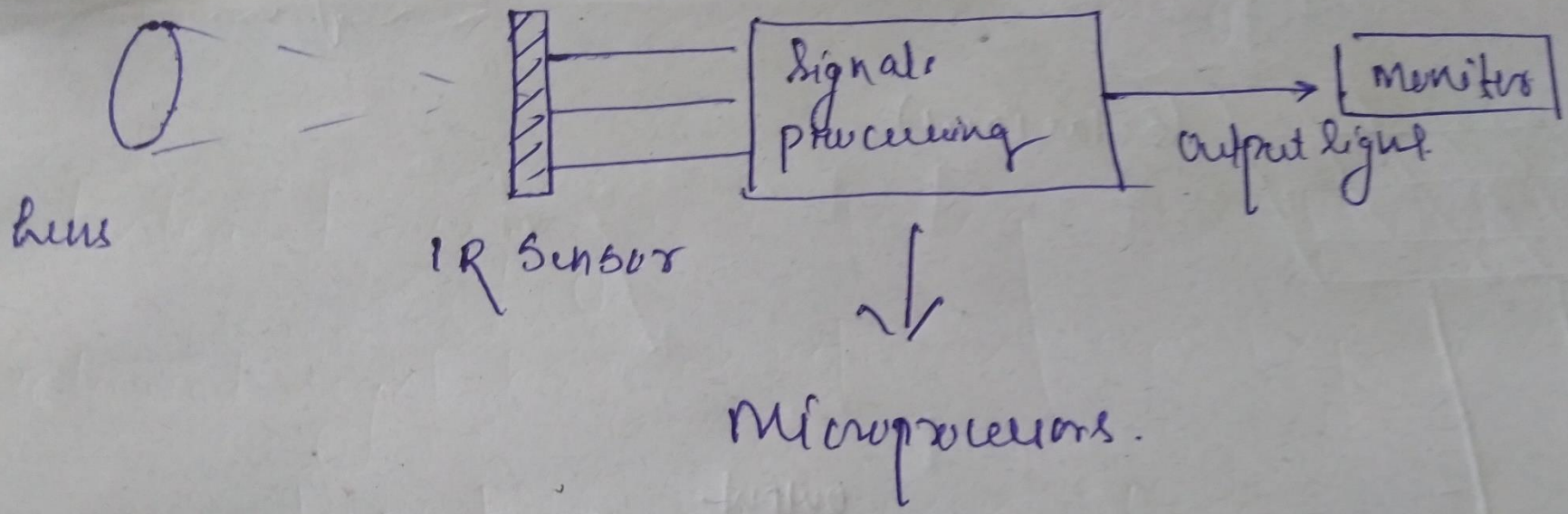
Mostly it will operated at railways which will reduce the human-elephant collision. The cameras will be installed at in front of train engine & it will be operated at required distance & auto rotate system. The cameras will be transfer to monitor in driver cabin via Microprocessor.

Components Required:

- Camera- A thermal imaging camera units an optic system, detector, amplifier, signal processing & display.

Arduino board designs variety of microprocessor & controllers. The board include USB on some models which are used for loading programs from computers. The Arduino provides an integrated development based on the processing language input. Arduino micro-controllers are pre-programmed with boot loader that amplifies uploading a program to chip memory. Micro-processor mostly confront the operation of computer's Central Processing Unit, transferring data from one location to another & doing mathematical functions.

- Monitor- It will be pre-loaded with the required information about temperature, distance etc. Hence the image will also be formed at monitor screen which will be present at driver's cabin, so that the driver can take appropriate measures.



Thermal Imaging Circuit

ESTIMATED BUDGET OF TECHNOLOGY

BUZZING BEES TECHNOLOGY

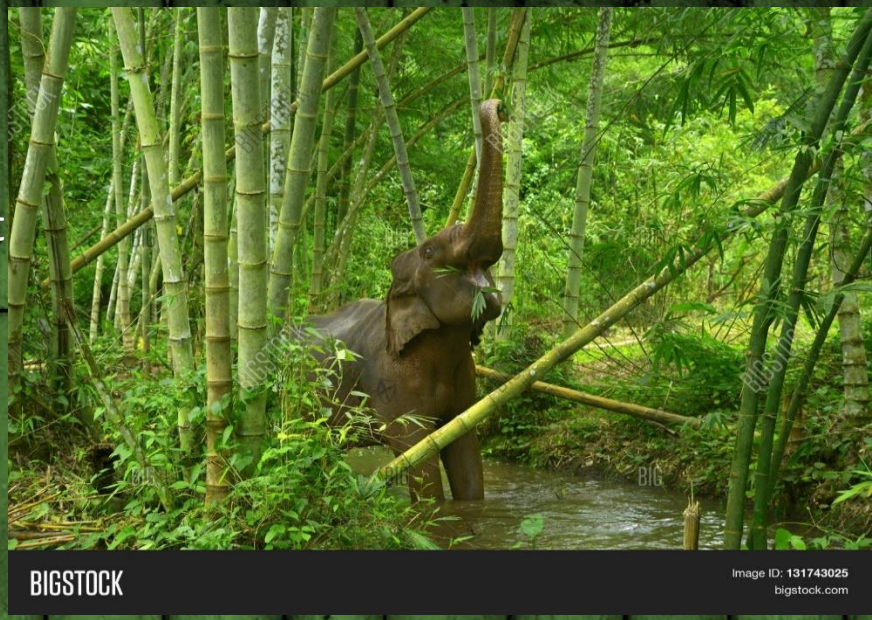
- Audio amplifier:₹2000
- Solar Panels:₹3000
- Loud speakers:₹2000

INFRARED IMAGING TECHNOLOGY

- Thermal imaging camera:₹20,000
- Arduino board:₹700
- LED SCREEN:₹5000

Elephant Reserves

As we know the world's largest animal is in crisis. All the three types- Asian, African forest & African savannah elephants are listed as threatened on the IUCN red list. Elephants play a crucial role as ecosystem engineers, maintaining mineral-rich clearings in the forest, on which other species rely. As a seed dispersers, they also help to maintain the largest tree species which happen to be the most Important for carbon sequestration.



So keep their elephant safe in their natural habitat. Forest department should declare some portion of forest as elephant reserves especially the regions where elephant are found more in our country. The zones would be facilitated with more plants & trees which will provide more food for elephant as well as maintain environmental atmosphere. For their bathing & drinking purpose, water reservoir should be made according to the need. Fences would be constructed at the periphery of the zone. At the periphery chilli farming can be done because elephants hate chillies.

This measure will prevent illegal killing, protect elephant habitat, easy to monitor elephant numbers, decrease poaching rates & threats to elephant habitat. It will also reduce IVORY TRAFFICKING. These reserves if well-maintained can also be used as tourist attraction (with some strict rules & regulations) which will be a good source of revenue too.

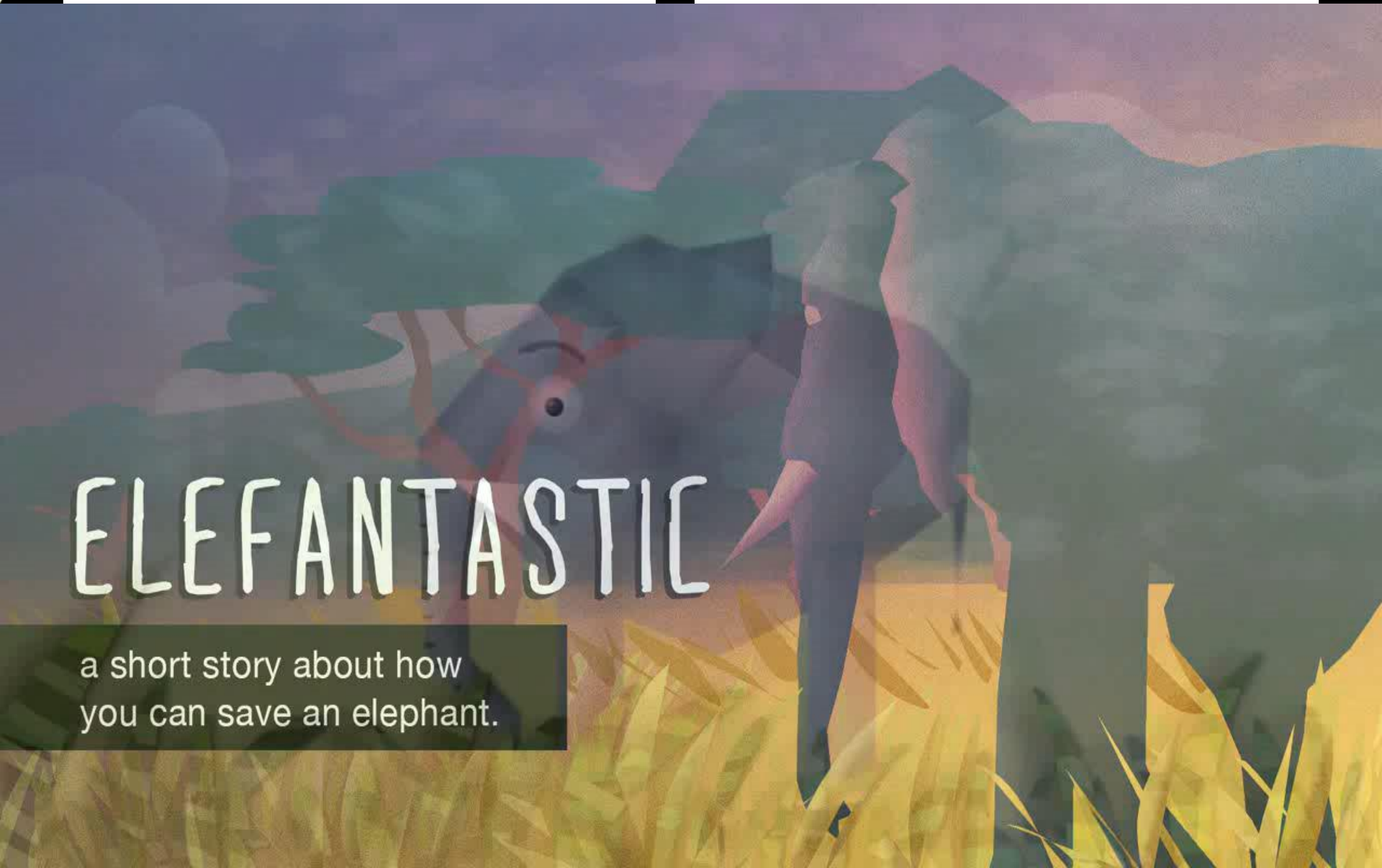
PREVENTING ELECTROCUTION

Electrocution is a related set of injuries caused by direct contact with live electrical connection. Electricity kills more elephants in parts of India than poachers do. Elephant have been electrocuted unwittingly due to sagging overhead lines.

So to avoid these incidents, we can implement the undergrounding electric distribution system. Undergrounding is the replacement of over heading cables proving electrical power or telecommunication through the underground, it will no way harmful to elephants. In addition to improving the landscape, undergrounding protects electrical equipment from bad weather & vegetation. It also helps to create more open space in neighbourhoods. It can increase the initial cost of electric power transmission & distribution but may decrease operational cost over the lifetime of the cables.

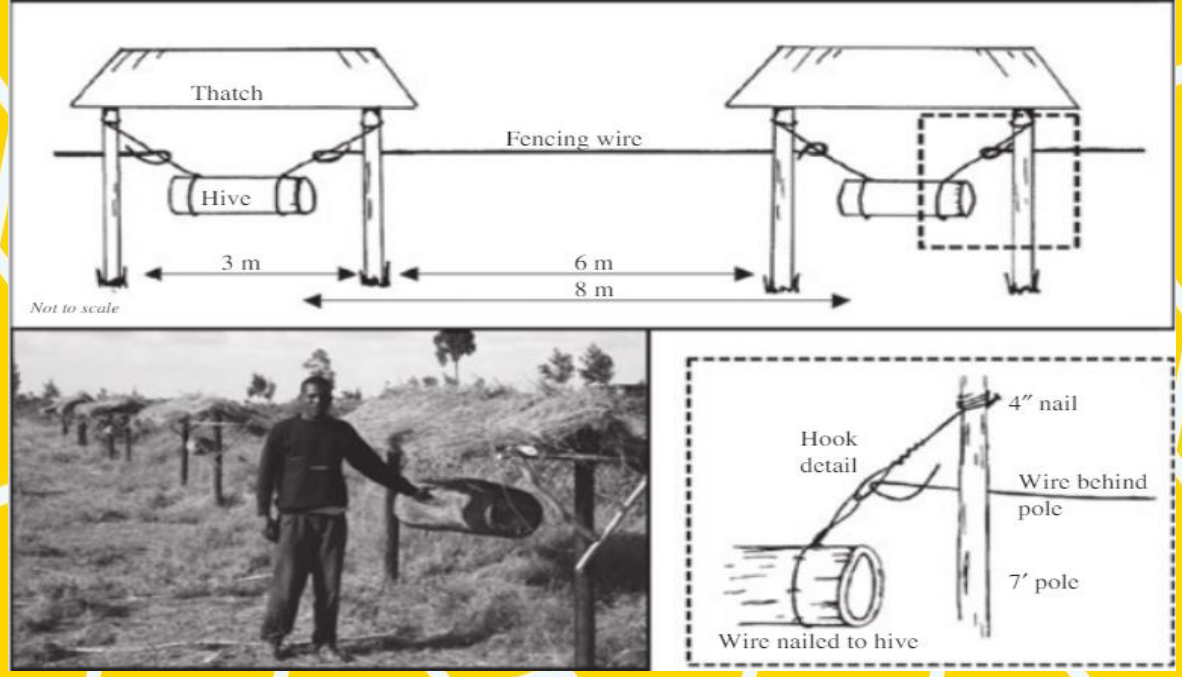
Villagers in Dhenkanal, Odisha, looking at the carcasses of the elephants which died from electrocution. File photo

BEEHIVE FENCING



BEEHIVE FENCING

As the elephant population is increasing following conflicts between humans and elephants are also becoming more common. Free-roaming elephants are tempted by farm crops and are undeterred by traditional deterrents such as thorn bushes and ditches. Subsistence farmers are unable to afford electric fencing and have occasionally shot or poisoned elephants to stop crop raids.



Beehive fence design. The fence is constructed with log beehives hung under small thatched roofs. The hives to be spaced 8 m apart. The beehives swing freely, suspended by tightly secured fencing wire to the top of the seven-foot poles. Each hive is linked to each other with strong, taut, fencing wire that hooks to the center of the permanent wire of each hive and is, crucially, behind the upright poles on the crop side of the fence. An intruding elephant trying to enter the field will avoid the complex solid structure of the bee huts and will be channeled between them. As the elephant tries to push through the thigh-high wire, it causes the attached beehives to swing violently, thereby disturbing and releasing the bees to irritate or sting the elephant.


HOW ABOUT
DOING A
LITTLE
BUSINESS ???
solutions
note to self
04 05 06 07
insurance


HAVE YOU
solutions
EVER HEARD
tax
OF
plan
insurance
APICULTURE
START-UP?!?!

Apicultures is the practice of intentional maintenance of honeybee colonies, commonly in hives, by humans. A beekeeper (or apiarist) may keep bees in order to collect honey and beeswax, or for the purpose of pollinating crops, or to produce bees for sale to other beekeepers. A location where bees are kept is called an apiary.

- **Can someone help?**

Yes, The Enterprise. The enterprise is based on the conversion of nectar of flowers into honey by the honeybees. The worker honeybee collects the nectar from the flowers over a period and convert it into edible honey. The honeybees store the final product in the combs of the hive. The conversion of nectar into honey by the honeybees is by a biological process.

Production of honey from farmlands can be a secondary activity for farmers as it requires less time as compared with other activities and can be carried out by women and children in a house. Technology Beekeeping can be initiated by individuals or groups. It requires limited capital and minimum dependence on foreign technology.

- **How to promote & market a beekeeping business**

One of the best ways to promote your business is through education. Many consumers are unaware of the benefits of consuming local honey, choosing to purchase it from the grocery store instead. Have a website built and publish regular blogs, educating consumers on common myths and misconceptions. Don't forget to use any small business' most inexpensive promotional tool - social media. Establish a web presence. A business website allows customers to learn more about your company and the products or services you offer. You can also use social media to attract new clients or customers.

- **State & Local Business Licensing Requirements**

In most states, it is necessary to obtain multiple license pertaining to honey processing. Because honey is being sold as a product of this business, you will need licensing from a local health department. All establishments serving and/or preparing food are required to pass a health inspection.

- **How does a beekeeping business make money?**

The more the number of bees you keep, the more the quantity of honey produced and hence more the profit. Honey and wax have the potential of being sold at a local market as well as in the national market because of their demand in the household as well as the industrial sector. Restaurants and health food stores can purchase your products in bulk. Depending on their location and demand, some beekeepers also rent out their bees for commercial crop pollination. Honey has been used extensively by the pharmaceutical and cosmetic companies as an ingredient of medicines and cosmetic.

Most of the medicines of Ayurveda are honey based. Honey is also used as an astringent. Even at a household level, honey is consumed daily due to its medicinal properties as has been recommended in the traditional medicinal system. It is also considered beneficial for diabetic patients.

- **What are the costs involved in opening a beekeeping business?**

The greatest part of your investment will be the land you house your bees on. You'll need to purchase or rent land large enough for your bees to forage. Also required a queen bee and some flowers around.

Once you've found land for your bees, there are a few additional items you'll need:

- Bees with queen: ₹5000-10000
- Veil: ₹300-700
- Hive tool: ₹300
- Bee smoker: ₹700-1000
- Beekeeper's suit: ₹1000-1500
- Gloves: ₹100
- Beekeeper's Boots: ₹1500-2000
- Fully assembled hives: ₹4000-8000
- Bee brush: ₹100
- Honey extractor: ₹7000-10000
- TOTAL: ₹20,000-30,000.

CONCLUSION

So we need to secure a future for elephants & to sustain the beauty & ecological integrity of the places they live; to promote men's delight in their intelligence to develop a tolerant relationship between two species.